Amendments to the Claims

Please cancel claims 4, 9, 11, 12, 20, 24, 28, 29, 31 and 32. The currently pending claims as amended are listed below.

1   1.   (Previously Presented)   A method of data access code generation in an object-oriented
2   programming environment, comprising:
3   a)   describing a data object in a data object description document, said data object
4   description document conforming to a data object document type definition, said data
5   object document type definition defining at least one application programming
6   interface (API) for providing access to backend data at runtime;
7   b)   applying at least one code generation template to said data object description
8   document, said at least one code generation template including at least one data
9   access API call for at least one corresponding API for providing access to backend
10   data at runtime, said API defined by said data object document type definition;
11   c)   generating code in an object-oriented programming language, said code embodying at
12   least one data access class to provide access to said backend data at runtime using
13   said at least one data access API call, said code being generated automatically as
14   output from said at least one code generation template applied to said data object
15   description document.

2.   (Cancelled)

1   3.   (Original)   The method according to claim 1, wherein steps b) and c) are performed by a
2   data access code generator routine.

4.   (Cancelled)

Docket No.:   CA920000010US1
Serial No.:   09/838,620

1   5.   (Previously Presented)   The method according to claim 1, wherein said data object

2   description document is created in Extensible Markup Language (XML) language.

1   6.   (Original)   The method according to claim 1, wherein said at least one code generation

2   template is implemented in a transformation language.

1   7.   (Original)   The method according to claim 6, wherein said transformation language is

2   Extensible Stylesheet Language (XSL).

1   8.   (Original)   The method according to claim 3, wherein said data access code generator

2   takes said data object description document and said at least one code generation template as

3   inputs and outputs said at least one data access class.

9-16   (Cancelled)

1   17.   (Previously Presented) An apparatus for generating data access code in an object-oriented

2   programming environment comprising:

3   a)   a data object descriptor operative to describe a data object conforming to a data object

4   document type definition, said data object document type definition defining at least

5   one application programming interface (API) for providing access to backend data at

6   runtime;

7   b)   at least one code generation template, said at least one code generation template

8   including at least one data access API call for at least one corresponding API for

9   providing access to backend data at runtime, said API defined by said data object

10   document type definition; and

11   c)   a code generator operative to generate code in an object-oriented programming

12   language, said code embodying at least one data access class to provide access to said

13   backend data at runtime using said at least one data access API call, said code

14   generator automatically generating said code as output from said at lease one code

15   generation template applied to said data object descriptor.

18.   (Cancelled)

1   19.   (Previously Presented) The apparatus according to claim 17, wherein said at least one

2   code generation template is operative to define the transformation of a data object description

3   comprising data object descriptors to said at least one data access class.

20.   (Cancelled)

1   21.   (Original) The apparatus according to claim 17, wherein said data object descriptor is

2   created in Extensible Markup Language (XML).

Docket No.:   CA920000010US1
Serial No.:   09/838,620

3   22.   (Previously Presented)   A program product for data access code generation in an object-

4   oriented programming environment, said program product comprising:

5   a)   memory; and

6   b)   a data access code generator stored on said memory, said data access code generator

7   being configured to perform the steps of,

8   i)   receiving a data object description document describing a data object, said

9   data object description document conforming to a data object document type

10   definition, said data object document type definition defining at least one

11   application programming interface (API) for providing access to backend data

12   at runtime;

13   ii)   applying at least one code generation template to said data object description

14   document, said at least one code generation template including at least one

15   data access API call for at least one corresponding API for providing access to

16   backend data at runtime, said API defined by said data object document type

17   definition;

18   iii)   generating code in an object-oriented programming language, said code

19   embodying at least one data access class to provide access to said backend

20   data at runtime using said at least one data access API call, said code being

21   generated automatically as output from said at least one code generation

22   template applied to said data object description document.

     23- 24.   (Cancelled)

1   25.   (Previously Presented)   The program product of claim 22 , wherein said data object

2   description document is created in Extensible Markup Language (XML) language.

Docket No.:   CA920000010US1
Serial No.:   09/838,620

1   26.   (Original) The program product of claim 22, wherein said at least one code generation

2   template is implemented in a transformation language.

1   27.   (Original) The program product of claim 26, wherein said transformation language is

2   Extensible Stylesheet Language (XSL).

    28-36 (Cancelled)

1   37.   (Previously Presented) The method according to claim 1, further comprising the steps of:

2   d)   modifying said data object description document; and

3   e)   regenerating said code embodying said at least one data access class, said code being

4   regenerated automatically as output from said at least one code generation template

5   applied to said modified data object description document.

1   38.   (Previously Presented) The program product of claim 22, said data access code generator

2   being configured to further perform the steps of:

3   iv)   receiving a modified data object description document; and

4   v)   regenerating said code embodying said at least one data access class, said code

5   being regenerated automatically as output from said at least one code

6   generation template applied to said modified data object description

7   document.

Docket No.:   CA920000010US1
Serial No.:   09/838,620